

# THE FOOD MILES DEBATE

## BBC.CO.UK – What are Food Miles?

<http://www.bbc.co.uk/food/0/26257794>



Thanks in part to concerns about climate change, more people are stopping to consider the impact that everyday goods - including food - have on the environment. Food miles, the distance food travels from field to plate, is a way of indicating the environmental impact of the food we eat. Half the vegetables and 95 per cent of the fruit eaten in the UK comes from beyond our shores. Increasingly, it arrives by plane - and air travel gives off more CO<sub>2</sub> than any other form of transport.

Agriculture and food account for nearly 30 per cent of goods trucked around Britain's roads and, according to a Government report in 2005, the resulting road congestion, accidents and pollution cost the country £9bn a year.

### The end of the road for food miles?

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The term 'food miles' was coined in the 1990s by Dr Tim Lang, professor of food policy at London's City University. While the idea of food miles has become common currency, many other processes contribute to the carbon footprint of our food. Agriculture, processing, storage and the way we shop all have to be factored into the bigger carbon emissions picture.

Together these factors combine to make the food we eat responsible for a third of UK households' impact on climate change.

## **Air grievance**

The most contentious food miles are clocked up by the fresh fruit and vegetables arriving by plane from across the globe. Reducing the carbon footprint of food is not as simple as choosing not to buy fresh fruit and vegetables flown in from Africa or South America, however.

Although air-freighted produce accounts for less than one per cent of total UK food miles, it is responsible for around 11 per cent of the total CO<sub>2</sub> emissions from UK food transport. That's because transport by plane generates 177 times more greenhouse gases than shipping does, for example, and it's the fastest-growing way of moving food around, according to latest figures from the Department for Environment, Food and Rural Affairs (Defra).



The most recent increase is affected by imports of animal feed from Brazil and the USA, but it is the green beans grown in Kenya, 70 per cent of which are destined for UK supermarkets, that draw much of the anti-air freight fire.

Because of concerns about the carbon emissions generated by air-freighting, Marks and Spencer and Tesco now label fresh produce flown in from abroad with a sticker depicting an airplane.

## **Miles in the balance**



Others believe that highlighting the fact that the food is air-freighted can demonise such produce and threaten the livelihoods of some of the world's poorest people, who are dependent on exporting by plane. The £200million fresh fruit and vegetable trade with the UK supports one million people living in Africa.

To support environmentally friendly food production without unnecessarily harming vulnerable developing economies, the Soil Association has decided that, in order to qualify as 'organic', all air-freighted food will have to meet ethical trade standards from 2009. Incidentally most Fairtrade fruit, such as pineapples, bananas and mangoes, is transported by sea.

## **Lorry loads**

Food transport is responsible for 25 per cent of the kilometres clocked up by HGVs on our congested roads. Supermarkets have national distribution systems, so even food grown near a particular branch may have travelled by lorry to a central depot and back to its place of origin. Ingredients used in the food processing industry travel around the country from factory to factory before reaching the shops.

All these journeys around Britain mean that HGVs transporting food transport are responsible for a quarter of CO<sub>2</sub> emissions.

## **Car culprits**



It's easy to overlook the fact that the food we eat clocks up extra miles on the drive to the supermarket and back. The last set of figures looking at the distance food travels found a seven per cent increase in city car journeys making longer and more frequent trips to the shops. Cars are responsible for 20 per cent of the UK's CO<sub>2</sub> emissions from food transport.

## **Is home-grown always better?**

Even locally grown and organic food can be kept chilled for months. Refrigeration requires energy; trying to cheat our climate by growing fruit and vegetables outside their natural season is also contributing to climate change.

A 2005 Defra report indicated that it can be more energy-efficient to import tomatoes from Spain by lorry than to grow them in a heated greenhouse in the UK. Lettuce grown out of season in the UK also compared unfavourably with Spanish salad when total carbon emissions were measured.

A study carried out at Lincoln University in New Zealand concluded that rearing and distributing British lamb produces more CO<sub>2</sub> emissions than importing the meat 11,000 miles by sea. New Zealand farmers use more renewable energy and less fertiliser, so agriculture is much more energy efficient than the UK's, making up for the food miles.

## **Carbon 'foodprint'**

Different farming systems use varying amounts of energy. The reckoning of all the carbon emissions produced in the growing, processing and distribution of our food starts in the field. Measuring the environmental impact, from fork to plate, is known as the life cycle.

Organic farming uses less energy because it relies much less heavily on fertilisers and chemicals used in intensive farming, the manufacture of which creates greenhouse gases.

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Meat is the most energy-intensive of all foods to produce, taking up larger amounts of water than any other food production - 2,400 litres of water to produce a 150g hamburger compared to 13 litres of water for a 70g tomato. Cows give off methane which contributes to global warming, too. Livestock rearing generates more greenhouse gases than transport does.

Processing and packaging also contribute to food's carbon footprint, as does keeping it chilled or frozen. All these carbon emissions can outweigh those produced by food miles.

## **Is there still mileage in food miles?**

While some think the term food miles will be superseded by a life cycle carbon footprint, it is still important to keep track of the distance food travels.

Food miles have jump-started the debate about the carbon footprint of our food. Paul Steedman of the Food Ethics Council insists they're still a valuable concept, although only one component of the life cycle of food. 'It's heartening the way people are now thinking about the ethics of food, and we don't want to throw the baby out of the bathwater,' says Steedman.

He and others would argue that comparing English and New Zealand apples in July and finding that the imports score lower on carbon emissions is a red herring, because consumers shouldn't expect to eat apples out of season and that supermarkets shouldn't be selling unseasonal fresh fruit and vegetables all year round. That way, he argues, the responsibility wouldn't lie with shoppers having to weigh up which foods are better for the environment.

## **Carbon labelling**

But a global food economy seems here to stay and consumers will doubtless continue to demand the out-of-season produce that they've grown used to. The challenge is to reduce the impact food production has on climate change.



By working out a way of measuring how much CO<sub>2</sub> is given off at every stage of production that's partly what the Carbon Trust is helping organisations to do. Look for the pilot label showing the carbon emission in grams on Walkers cheese and onion crisps. Innocent smoothies are being measured and already the fruits' journey from India has been shown to make up less than a quarter of the carbon emission tally on its mango and passion fruit smoothie.

Following a pledge by its chief executive Sir Terry Leahy, Tesco is working with the Carbon Trust to map the carbon footprint of foods including tomatoes, potatoes and orange juice. Companies opting for the Carbon Trust scheme must commit to reducing emissions or lose the right to use the label.

Only when several similar foods have their carbon footprint measured can shoppers choose their foods accordingly. Until then, shopping locally for what's grown locally (and, preferably, organically) and in season, may be the only guarantee that the food we buy is doing the least possible damage to our environment.

## **Food Miles facts**

### **('Facts' as stated by Farmers Weekly magazine)**

*(original source of information, though information no longer on site)*

#### **Q: What is a food mile?**

A: It's how far food travels from the farmer who produces it to the consumer who eats it. That includes the journey from farm to processor, then from processor to retailer and finally from retailer to consumer. It includes travel within the UK as well as between countries.

#### **Q: Why is it important to reduce the number of miles food travels?**

A: There are lots of reasons, but these are the main ones:

##### **(1) *Food miles harm the environment.***

Transporting food large distances uses a lot of fuel, whether it travels by lorry or plane. That means more carbon dioxide emissions and more global warming. *Did you know? Since 1978 the amount of food moved about within the UK by HGV has increased by 23% and the average distance for each trip has jumped by 50%.*

##### **(2) *Food miles reduce freshness***

The further food has to travel, the longer it spends in transit. That means vitamins are lost and nutritional values inevitably decline. *Did you know? Imports of indigenous foods rose from 13.5m tonnes in 1992 to 16.1m tonnes in 2002.*

**(3) *Food miles mean less security*** As time goes by, a greater and greater proportion of UK food comes in from abroad. At a time when the world has never seemed such an unstable place, is it really a good idea to rely so heavily on distant countries to supply such a vital commodity? *Did you know? 95% of fruit and 50% of vegetables eaten in the UK are imported.*

##### **(4) *Food miles make us lose our sense of seasonality.***

Being able to buy strawberries in January can be appealing. But is it really a good idea to ship seasonal fruit and vegetables thousands of miles across the world when, if we waited a few months, we could buy them from a few miles away? Actively giving priority to buying foods that are in season is an easy way of cutting food miles. *Did you know? If all foods were sourced from within 20km of where they were consumed, the country would save £2.1bn in environmental and congestion costs.*

**(5) *High food miles mean it's harder to monitor production and welfare standards***

While food produced on the other side of the world may be just as healthy and welfare friendly as the same food produced down the road, it's inevitably harder to check whether that's the case. Buying local food means you can talk to the farmer and see exactly how it's produced. *Did you know? Air transport accounts for 1% of food miles, but 11% of food mile CO2 emissions*

**(6) *More food miles means more transport cost.***

Aviation fuel and lorry diesel aren't cheap, so the further food travels the more costs it incurs. Who pays those costs in the end? Consumers, of course. *Did you know? The amount of food air-freighted around the world has risen by 140% since 1992*

**(7) *Food miles can hurt the environment in 3rd world countries.***

While much of the farming in the 3rd world is just as sustainable as it is here in Europe, some isn't. Buying food from countries that routinely fell rainforest to plant crops, for example, isn't something most consumers would be comfortable doing. *Did you know? An area of rainforest equivalent to 10 football pitches is destroyed every second.,*

**Q: Won't buying locally hurt third world farmers?**

A: Buying food is all about choice. Farmers Weekly's campaign fully supports the principle of Fair Trade. But consumers have a right to be able to make informed decisions about where their food comes from and the social and environmental impacts of those purchases. The campaign should help them make the right decision about what imported food they feel it is appropriate to support and what local food they want to buy.

**Q: Why should consumers support the low food miles concept when Britain has just started exporting beef again?**

A: International trade is important to the UK economy. We now import much more food than we export and the food trade gap is widening – in fact it hit £12.3b in 2004, twice as much as in 1997.

**Q: Is it only about fresh produce?**

A: No, processed products can often notch up huge mileages too. Bread or beer made from UK or even regionally-sourced wheat and barley brings the benefits of low food miles. So do UK-sourced vegetable oil, sugar, flour, crisps, frozen chips, ready-made meals etc.

**Q: OK, I'm convinced! Now, how do I cut down my food miles?**

A:

- Look more closely at country-of-origin labels on food products and choose your purchases accordingly.
- Ask politely (but firmly) where food comes from when shopping and eating out.
- Eat foods that are in season in the UK (see [www.eattheseasons.co.uk/foodseasons.htm](http://www.eattheseasons.co.uk/foodseasons.htm) to see what's in season)
- Use farmers markets (there are more than 500 in the UK). For a list see <http://www.farmersmarkets.net/>
- Use farm shops or pick-your-own farms. See [www.farmshopping.com](http://www.farmshopping.com) for a list
- Look for local food producers on the internet. Food from Britain ([http://www.foodfrombritain.com/buyersguide/Regional\\_food\\_and\\_drink\\_guide.asp](http://www.foodfrombritain.com/buyersguide/Regional_food_and_drink_guide.asp)) and BigBarn ([www.bigbarn.co.uk](http://www.bigbarn.co.uk)) have two of the best local food directories
- Find a local box scheme [www.ukfoodonline.co.uk/allregions/allfruit12.htm](http://www.ukfoodonline.co.uk/allregions/allfruit12.htm) has a list of 30
- Grow your own fruit & vegetables!
- Carry a small map of the world around in your back pocket when you go food shopping. You'll soon know your Bristol from your Brazil and your Thetford from your Thailand!



## [The Independent - How the myth of food miles hurts the planet](#)

Ethical shopping just got more complicated. The idea that only local produce is good is under attack. There is growing evidence to suggest that some air-freighted food is greener than food produced in the UK. Robin McKie and Caroline Davies report on how the concept of food miles became oversimplified - and is damaging the planet in the process

### **About this article**

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Green beans that have been flown in from Kenya. Photograph: Wendy Stone/Corbis

Mike Small and his wife, Karen, sat down last Thursday to a dinner of smoked fish pie crusted with mashed potato and served with purple-sprouting broccoli, an unremarkable family meal except for one key factor: every ingredient came from sources close to their home in Burntisland, Fife. 'The fish was Fife-landed, while the potatoes and broccoli were grown on nearby farms,' he says.

Nor was this a one-off culinary event. For the past six months Mike and Karen and their two children, Sorley and Alex, have consumed only food and drink bought in their home district.

This is the Fife Diet, developed by Mike Small as a response to the environmental dangers posed by carbon-emitting imports of Peruvian avocados, Kenyan green beans, New Zealand lamb and all those other foreign foodstuffs that now fill the shelves of our supermarkets. Each of these imported products involves the emission of carbon dioxide from the planes and ships that brought them to our shores.

So Mike Small argues that we should eat local produce and save the planet, an idea that has obliged his family - and a growing number of adherents to his cause - to eat meals of local lamb, pork and a great many dishes based on parsnips, beetroots, kale, potatoes,

leeks and all the other root vegetables that typify the agricultural output of this wind-swept corner of Scotland.

This is the future of ethical eating, insists Small: the consumption of local produce at all costs. It is an attitude now shared by thousands around the UK and overseas, individuals who have decided to reject foods that have been transported over long distances by road, air or sea to their dinner plates. They even have their own name for themselves - locavores - and insist that their way is the only one to save the planet.

But the idea that 'only local is good' has come under attack. For a start, food grown in areas where there is high use of fertilisers and tractors is likely to be anything but carbon-friendly, it is pointed out. At the same time the argument against food miles - which show how far a product has been shipped and therefore how much carbon has been emitted in its transport - has been savaged by experts. 'The concept of food miles is unhelpful and stupid. It doesn't inform about anything except the distance travelled,' Dr Adrian Williams, of the National Resources Management Centre at Cranfield University, told The Observer last week.

Given that the food miles cause was hailed only a few months ago as the means to empower the carbon-conscious consumer, such criticisms are striking, and suggest that some careful reassessment of the concept's usefulness has been going on.

Certainly the issues involved no longer seem clear-cut. Consider that supermarket stalwart: green beans from Kenya. These are air-freighted to stores to allow consumers to buy fresh beans when British varieties are out of season. Each packet has a little sticker with the image of a plane on it to indicate that carbon dioxide from aviation fuel was emitted in bringing them to this country. And that, surely, is bad, campaigners argue. Rising levels of carbon dioxide are trapping more and more sunlight and inexorably heating the planet, after all.

But a warning that beans have been air-freighted does not mean we should automatically switch to British varieties if we want to help the climate. Beans in Kenya are produced in a highly environmentally-friendly manner. 'Beans there are grown using manual labour - nothing is mechanised,' says Professor Gareth Edwards-Jones of Bangor University, an expert on African agriculture. 'They don't use tractors, they use cow muck as fertiliser; and they have low-tech irrigation systems in Kenya. They also provide employment to many people in the developing world. So you have to weigh that against the air miles used to get them to the supermarket.'

When you do that - and incorporate these different factors - you make the counter-intuitive discovery that air-transported green beans from Kenya could actually account for the emission of less carbon dioxide than British beans. The latter are grown in fields on which oil-based fertilisers have been sprayed and which are ploughed by tractors that burn diesel. In the words of Gareth Thomas, Minister for Trade and Development, speaking at a recent Department for International Development air-freight seminar: 'Driving 6.5 miles to buy your shopping emits more carbon than flying a pack of Kenyan green beans to the UK.'

'Half the people who boycott air-freighted beans think they are doing some good for the environment. Then they go on a budget airline holiday to Prague the next weekend,' adds Bill Vorley, head of sustainable markets for the International Institute for Environment and Development. 'They are just making gestures.'

It is not that the concept of food miles is wrong; it is just too simplistic, say experts. In fact, balancing your diet with its carbon costs turns out to be a fiendishly tricky business. Consider these two staples: apples and lettuce. The former are harvested in September and October. Some are sold fresh; the rest are chill stored. For most of the following year, they still represent good value - in terms of carbon emissions - for British shoppers. But by August those Cox's and Braeburns will have been in store for 10 months. The amount of energy used to keep them fresh for that length of time will then overtake the carbon cost of shipping them from New Zealand. It is therefore better for the environment if UK shoppers buy apples from New Zealand in July and August rather than those of British origin.

Then there is the example of lettuces. In Britain these are grown in winter, in greenhouses or polytunnels which require heating. At those times it is better - in terms of carbon emissions - to buy field-grown lettuce from Spain. But in summer, when no heating is required, British is best. Picking the right sources for your apples and lettuces depends on the time of year.

'Working out carbon footprints is horribly complicated,' says Edwards-Jones. 'It is not just where something is grown and how far it has to travel, but also how it is grown, how it is stored, how it is prepared.'

This uncertainty even extends to the Soil Association, which announced last year that it was considering halting its endorsement of air-freighted organic food because their emissions negated the benefits of growing it organically. But now the organisation has dropped the plan and is to continue to endorse air-freighted organic food, provided it is grown under conditions that meet its ethical trade standards.

In addition, the government has revealed that it is changing its stance on food miles, as was recently stressed by Gareth Thomas. 'Food miles alone are not the best way to judge whether the food we eat is sustainable. We need a better-informed food miles debate. Long term, the only fair option is to ensure the prices of the goods we consume, including organic produce, cover the environmental costs wherever the goods are from. We also need a labelling system that tells consumers about how the product is reducing poverty.'

Nor is this argument lost on the nation's supermarkets. 'An airplane sticker is of no environmental value whatsoever, as studies have shown air-freighted products are not necessarily less sustainable than local produce grown in heated greenhouses,' said a spokesman for Tesco. 'Thus we may remove those plane labels in future. What people are actually interested in is the amount of carbon that is emitted during a product's manufacture and import.' As a result, Tesco has promised to put carbon labels on 30 of its own-brand products in the near future: six types of potatoes, 11 types of tomatoes, five types of washing power and liquid capsules, four types of orange juice and six types of

light bulbs. 'We want to see how customers react and find out how it affects their purchasing behaviour,' added the spokesman.

In fact, these carbon cost labels have already been tested on a small range of products, including Walkers crisps and Cadburys chocolates. Packets and wrappers have a small C with a downward arrow through it, beside a figure which represents the number of grams of carbon dioxide emitted during the manufacture of that product. In this way it is revealed that packets of Walker's Ready Salted and Salt and Vinegar crisps each generate 75g of carbon, while the cheese and onion variety produced only 74g.

Now this limited range of products is to be expanded and will appear in Tesco and other stores, says the Carbon Trust which - with the British Standards Institute - has been involved in calculating how a meaningful carbon inventory can be compiled for foodstuffs.

Not surprisingly, such exercises have proved to be extraordinarily tricky, says Graham Sinden of the Carbon Trust. 'You have to take into account emissions that occurred in the farmyard, for example. Cows and sheep produce methane, which is far more damaging a greenhouse gas than carbon dioxide. Similarly, fertilisers produce nitrogen oxides that are also dangerous. Then you have the issue of transport and processing. Taking a sheep to the slaughterhouse produces carbon emissions, for instance. Cooking is another factor. That requires heat that in turn releases carbon dioxide. After that you need to store products. That often requires refrigeration, which requires electricity, which releases carbon dioxide. Estimating how long a product will be kept in a store and how efficient is its refrigeration is not easy to assess, but it has to be done.

'Then you have to work out how long your product will be kept at home once it has been purchased. You also have to estimate how efficiently it will be cooked. And finally you have to work out how much carbon is involved in its packaging and how much will be emitted in disposing of those wrappers and labels once discarded.'

For some products, such as crisps, a carbon number is easy to calculate. But for others, the process will be much more awkward. How can you accurately calculate a pizza's carbon footprint when it often comes with a variety of toppings?

Even if you could get a carbon label that accurately reflects a product's impact on the environment and identify products that have high footprints, would you be right in boycotting them? In many cases, such as brands of coffee, these products come from struggling third world nations. Using our Western concerns with the climate as an excuse to increase poverty there has dubious ethical consequences.

In short, the issue of trying to reduce the emissions produced by food is bedevilled by complexity. Even replacing food miles with a carbon footprint figure will only partly simplify the issues, a point stressed by Tara Garnett of the Food Climate Research Network.

'There is only one way of being sure that you cut down on your carbon emissions when buying food: stop eating meat, milk, butter and cheese,' said Garnett. 'These come from ruminants - sheep and cattle - that produce a great deal of harmful methane. In other

words, it is not the source of the food that matters but the kind of food you eat. Whether people are prepared to cut these from their shopping lists is a different issue, however.'

### **The chickpea: A green dilemma**

Chickpeas are sold in supermarkets in two versions: dried or cooked. The carbon footprint of the latter is far higher than the former. The only processing involved in drying chickpeas is to lay them out in the sun to drive off moisture. By contrast, heat is needed to cook chickpeas before they are tinned. Hence the carbon gram total for tins of cooked chickpeas would be far greater than those on packets of the dried variety.

'That seems straightforward,' says Graham Sinden, of the Carbon Trust. 'But you can't eat dried chickpeas. You have to cook them. And when you take them home you find the carbon you emitted when cooking those chickpeas exceeds the figure for the tinned variety - because cooking small portions at home is inefficient compared with that of large industrial kitchens.'

As a result, when the trust system is taken up and used widely, the gram measure on a packet of dried chickpeas will include an estimate of the heat that will be used in a customer's home to cook them. But that figure will be a guess, for it will depend on whether the customer uses gas or electricity for cooking. The former is more efficient and less prone to carbon emissions.

As for individuals who use renewable energy to heat their homes and kitchens, they would completely negate the point of carbon labels in many cases. 'That is why it is impossible to have accurate carbon labels on a lot of products,' says Gareth Edwards-Jones, of Bangor University.